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	RDT8	RE BUDGET ITEM JU	JSTIFIC	ATION	SHEET	(R-2 E	chibit)		DATE		ry 2000
	GET ACTIVITY Advanced Tecl	PE NUMBER AND TITLE 0603211F Aerospace Structures						•	PROJECT 63486U		
	COST (\$	in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
63486U Advanced Aerospace Structures		11,640	16,638	12,961	11,918	15,094	18,908	17,071	Continuing	TBD	
	Quantity of RDT&E	Articles	0	0	0	0	0	0	0	0	0
(U)	(U) A. Mission Description This program develops and demonstrates affordable aerospace vehicle structures by utilizing innovative metallic and composite structures technologies to reduce the cost of airframe ownership. Innovative structural concepts integrate these two types of materials with design and monitoring techniques to develop and demonstrate solutions and repairs for corrosion fatigue, multi-site damage fatigue, and other damage to which aging aircraft are susceptible. The goal of this program is to develop technologies to restore structural integrity, extend life, and improve survivability of the current fleet and future fleet of manned and unmanned aerospace vehicles. The results are less maintenance intensive, more durable, and more dependable structures for current and future aerospace systems. This yields lower cost of ownership (by delaying acquisition and by reducing support and maintenance costs), restored and improved sortic rates (due to durability, damage or threat tolerance, and design for supportability), and reduced observability (both radar cross section and infrared). Note: In FY 2000, Congress added \$3.0 million for polymeric foam technology.										
(U) (U)	FY 1999 (\$ in Thous \$5,688	ands) Improved durability and perfore extreme thermal and acoustic extremetated aft fuselage and noz	environment	•		_			-		
(U)	\$5,491	Developed advanced structural component for demonstration of	concepts a	_			-	icles, such a	s the fabrica	ation of a ful	l-scale structural
(U)	\$461	Developed and applied new an future aerospace vehicles by m	alysis meth	ods and desi	gn criteria to	advanced o		ructures for 1	eduction in	life cycle co	sts of current and
(U)	\$11,640	Total									
(U) (U) (U)	FY 2000 (\$ in Thous \$7,420 \$8,733	ands) Improve durability and perform extreme thermal and acoustic of Develop advanced structural context existing aircraft and future aero twists to control flight. Evaluation	environment oncepts and ospace vehic	s. Continue design meth cle structures	to fabricate nods for futu s. Design a	an integrate re and existi full-scale str	ed aft fuselaging aerospac ructural com	ge and nozzle e vehicles to ponent for d	e section. enhance du emonstratio	rability and i	longevity of wing demo that
Р	roject 63486U			Page	e 1 of 3 Page	s			E	Exhibit R-2	(PE 0603211F)

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 2000							
	GET ACTIVITY - Advanced Te	chnology Development	PE NUMBER AND TITLE 0603211F Aerospace Structures	PROJECT 63486U				
(U)	A. Mission Descr	iption Continued						
(U)	FY 2000 (\$ in The	ousands) Continued						
(U)	\$485	doors, spoiler, etc.). Develop and apply new analysis methods and future aerospace vehicles by maximizing the	design criteria to advanced composite structures for reducuse of composite structures.	tion in life cycle costs of current and				
(U)	\$16,638	Total						
(U)	FY 2001 (\$ in The	FY 2001 (\$ in Thousands)						
(U)	\$5,168	support costs and extend usable structural live	rdability of existing aging aircraft and future aerospace vehicles. Develop advanced methods for predicting structural structural structural to validate low-cost advanced methods to restore original structural bility.	ength and life remaining due to effects of				
(U)	\$1,003	Develop advanced design concepts and methods to suppress aero-acoustic noise and vibration in advanced aircraft weapons bays to expand weapons employment envelope and reduce fatigue related failures. Investigate concepts to reduce life cycle cost of aircraft by reducing/eliminating fatigue in weapons bay area. Evaluate aerodynamic airflow control devices to improve weapons system performance by expanding aircraft store (fuel tanks, weapons, space, etc.) and aircraft release envelope.						
(U)	\$1,069	Develop advanced structural concepts and de-	sign methods for future aerospace vehicles for enhanced af d control authority of an active aeroelastic wing and, thereb					
(U)	\$1,400	Demonstrate new analysis methods and desig aerospace vehicles by maximizing the use of	n criteria for advanced composite structures to reduce life of composite structures. Continue to develop design concepts rials in future airframes. Verify the structural integrity of a	s and structural criteria to implement				
(U)	\$4,321	Reduce susceptibility and increase survivabili electromagnetic infrared signature suppressio	ity of existing and planned aircraft through demonstration on capability. Apply new structural design specifications the scale structurally integrated airframe and turbine engine in	at allow smaller and damage tolerant				
(U)	\$12,961	Total	, ,					
(U)	B. Budget Activity Justification This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.							
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	RDT&E BUDGET ITEM JUSTIFIC	DATE Febr i	DATE February 2000				
BUDGET ACTIVITY 03 - Advanced Technology Development		PE NUMBER AND TITLE 0603211F Aerospace		ргојест 63486U			
(U)	C. Program Change Summary (\$ in Thousands)	FW 1000	EV 2000	EV 2001	Tatal Cast		
(I I)	Previous President's Budget (FY 2000 PBR)	<u>FY 1999</u> 12,411	<u>FY 2000</u> 13,749	<u>FY 2001</u> 15,182	<u>Total Cost</u>		
(U) (U)	Appropriated Value	12,411	16,749	13,162			
(U) (U)	Adjustments to Appropriated Value	12,494	10,749				
(0)	a. Congressional/General Reductions	-83					
	b. Small Business Innovative Research	-364					
	c. Omnibus or Other Above Threshold Reprogram	-304	-91				
	1 0	-342	-91				
	d. Below Threshold Reprogram e. Rescissions	-34 <i>2</i> -65	-20				
	e. Rescissions f. Other	-03	-20				
(II)				2 221			
(U)	Adjustments to Budget Years Since FY 2000 PBR	11.640	16 629	-2,221	TBD		
(U)	Current Budget Submit/FY 2001 PBR	11,640	16,638	12,961	IBD		
(U)	Significant Program Changes: Changes to this program since the previous President's Budget ar	e due to reductions to the acoustic bay we	apons program.				
(U)	D. Other Program Funding Summary (\$ in Thousands) Related Activities: PE 0603245F, Flight Vehicle Technology Integration. This project has been coordinated through the Reliance process to	harmonize efforts and eliminate duplicati	ion.				
	E. Acquisition Strategy Not Applicable.						
` /	F. Schedule Profile Not Applicable.						
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